24-Hour Dietary Recall with Dietician

You will receive results of the dietary recalls and food frequency questionnaires completed by your child used to evaluate your child's usual dietary intake.

(Picture of the results unavailable at this time.)

Blood Draw with Phlebotomist

Zinc Fortification Effects on Cognitive Function, Psychoeducational Performance, Body Composition, Physical Fitness and Immune Function of Adolescents

RESEARCH DATA ONLY - Not to Be Used for Diagnostic Purposes
Please see reverse side for additional information

ID=[redacted]

DATE	Albumin (g/dl) (3.2-4.5)	Glucose (mg/dl) (60-100)	Total Cholesterol (mg/dl) (< 200)	LDL Cholesterol (mg/dl) (< 130)	HDL Cholesterol (mg/dl) (37-74)
20CT2001	4.5	95	150	78.8	57
9DEC2001	4.6	111	140	72.8	52

DATE	Triglyceride (mg/dl) (32-131)	Hemoglobin (g/dl) (11.5-16.0)	Hematocrit (Volume %) (34-45)	Copper (ug/dl) (80-160)	Iron (ug/dl) (60-180)	Magnesium (mg/dl) (1.7-2.2)	Zinc (ug/dl) (70-120)
20CT2001	71	12.7	39	94.7	65	2.18	84.50
9DEC2001	76	13.4	40	104.9	62	2.44	88.92

Interpreting Laboratory (Blood) Results

The blood tests done during this study are being used to help evaluate your health status as research data. *It is important to understand that it is not possible to diagnose or treat any disease or problem with these blood tests alone.* All laboratory test results must be interpreted in the context of your overall health and are generally used along with other exams or tests. The doctor who is most familiar with your medical history and current condition is in the best position to interpret your individual test results and explain their implications. You are encouraged to discuss any questions or concerns about these results with your doctor.

The results of a blood test are often evaluated by comparing a sample value to a 'reference' (normal) range of values. The normal range of results for a particular test is usually established so that 95% of healthy individuals fall within that range. That means that 5% of healthy individuals fall outside the normal range, even when there is nothing wrong with them. Therefore, *an abnormal test does not necessarily mean that there is something wrong with you.* Statistically if you have 20 tests run on your blood, the chances are that 1 will be outside the normal range. The reference range for each of the above tests is given in parentheses below the name of the test.

It is also very important to understand that the results of a blood test may be outside the normal range for many reasons unrelated to any illness or disorder, including race, age, sex, menstrual cycle, physical activity, stress, time of day, recent food intake, non-prescription drugs (aspirin, cold medications, vitamins, etc.), prescription drugs, alcohol intake, and problems with collecting or handling the blood sample.

The reverse side contains a brief description of each of the tests we performed on your blood. It is not intended to be comprehensive or to replace discussion of your results with your health care team.

Albumin is a measure of protein in your blood. This major protein is used to transport many other substances in the blood. Low values are often associated with malnutrition.

Glucose is a measure of sugar in your blood. Glucose is a product of carbohydrate metabolism that provides energy to cells for normal function. High values when fasting (8 hours without food) are associated with diabetes, but many other factors, such as stress or recent physical activity can also elevate blood glucose. Low values are referred to as hypoglycemia and usually occur when the body overreacts to the rise in blood sugar that occurs after eating, resulting in a rapid or excessive fall in blood sugar.

Total Cholesterol is a waxy, fat-like substance used in every cell membrane and as a base for several hormones. Our bodies need a certain amount of this substance to function properly. However, a high total cholesterol value is a major risk factor for heart and blood vessel disease. There are several types of cholesterol in your blood. Low Density Lipoprotein (LDL) is referred to as 'bad' cholesterol because cholesterol deposits form in the arteries when LDL levels are high. High Density Lipoprotein (HDL) is referred to as 'good' cholesterol because it protects against heart disease by helping remove excess cholesterol deposited in arteries. Therefore, high LDL and low HDL values are strongly associated with an increased risk for heart disease.

Triglyceride is a fat in the blood whose major function is as an energy source for metabolism. High fasting values are associated with heart disease. Recent food intake may raise triglyceride values in healthy individuals.

Hemoglobin is an iron-rich substance (protein) in red blood cells that carries oxygen from the lungs to other cells located throughout the body. The amount of oxygen in body tissues depends on how much hemoglobin is in the red cells. Without enough hemoglobin, tissues lack oxygen, and the heart and lungs must work harder to compensate. Low values may indicate iron-deficiency anemia.

Hematocrit is the ratio of red blood cell volume to total blood volume and provides information about the size, capacity and number of red blood cells. As with hemoglobin, low hematocrit values may indicate iron-deficiency anemia.

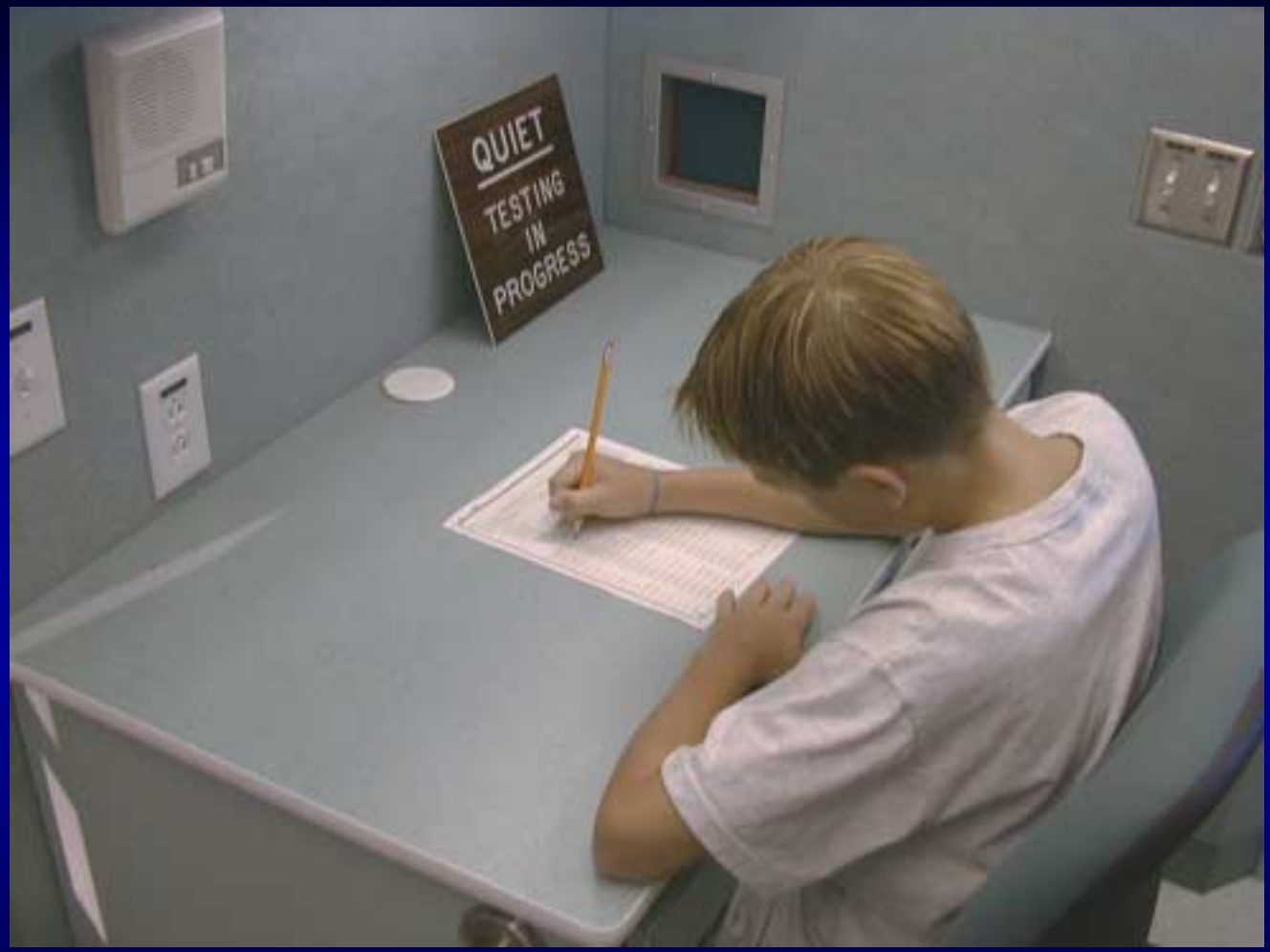
Copper is an essential mineral that combines with proteins to produce enzymes critical to several body functions. Some enzymes provide energy required by biochemical reactions, while others plays role in skin pigmentation and the formation of collagen and elastin necessary to maintain connective tissues in blood vessels and arteries. Therefore, low copper values may be associated with an increased risk for coronary heart disease.

Iron is a mineral required by the body to make hemoglobin and to help transfer oxygen to the muscles. If the human body is low in iron, all body cells, particularly muscles in adults, do not function properly. Conversely, too much iron can cause injury to the heart, pancreas and joints.

Magnesium is a salt found primarily inside the cells that helps regulate energy production in the cells and is necessary for nerve function, particularly neuromuscular response and irritability. Low values are associated with impairments in these functions.

Zinc is the second-most abundant mineral in the body and a component of several hundred enzymes with extremely diverse functions. Low values may indicate inadequate dietary intake or result from strenuous exercise and have been associated with poor growth and appetite, weight loss, delayed healing of wounds and taste abnormalities. Zinc deficiency has also been linked to impaired motor, mental and social function in very young children. We are doing this study to determine whether improved zinc nutrition will improve cognitive function, psychoeducational performance, physical fitness and immune function in adolescents.

You will receive results of the analysis of the blood sample used to evaluate your child's health.



Questionnaires completed by child, parent & teacher

You will receive results of the questionnaires completed by your child, you, and your child's teacher used to evaluate your child's adaptive function.

CBCL/5-18 - Narrative Report

ID: [redacted]
Birth Date: 01/22/1989
Date Filled: 10/01/2001

Gender: Female
Age: 12
Education: Grade 7

Clinician: RESEARCH DATA ONLY
Agency: USDA-ARS-GFHNRC

The Child Behavior Checklist (CBCL) was completed by the child's biological mother to obtain her perceptions of the child's competencies and problems. The child's biological mother reported that the child participates in one sport and that she has interests in one hobby. She belongs to no social organizations, teams or clubs. The child's biological mother reported that the child has no jobs or chores. She reported that the child has one close friend and that she sees friends three or more times a week outside of regular school hours. The child's biological mother rated the child's school performance as average in language arts, below average in social studies, average in math, and below average in science.

The child's Total Competence score was in the clinical range below the 10th percentile for parents' ratings of girls aged 12 to 18. Her scores on the Activities and Social scales were both in the borderline clinical range (2nd to 5th percentiles), and her score on the School scale was in the normal range.

On the CBCL problem scales, the child's Total Problems and Externalizing scores were both in the clinical range above the 90th percentile for girls aged 12 to 18. Her Internalizing score was in the normal range. Her scores on the Withdrawn, Somatic Complaints, Anxious/Depressed, Social Problems, Attention Problems, Delinquent Behavior, and Aggressive Behavior syndromes were in the normal range. Her score on the Thought Problems syndrome was in the borderline clinical range (95th to 98th percentiles). These results indicate that the child's biological mother reported more problems than are typically reported by parents of girls aged 12 to 18, particularly thought problems.

ID: [redacted]
Birth Date: 01/22/1989
Date Filled: 12/19/2001

Gender: Female
Age: 12
Education: Grade 7

Clinician: RESEARCH DATA ONLY
Agency: USDA-ARS-GFHNRC

The Child Behavior Checklist (CBCL) was completed by the child's biological mother to obtain her perceptions of the child's competencies and problems. The child's biological mother reported that the child participates in three sports and that she has interests in two hobbies. She belongs to no social organizations, teams or clubs. The child's biological mother reported that the child has three jobs or chores. She reported that the child has two or three close friends but that she sees friends less than once a week outside of regular school hours. The child's biological mother rated the child's school performance as above average in language arts, below average in social studies, average in math, and below average in science.

The child's Total Competence score was in the clinical range below the 10th percentile for parents' ratings of girls aged 12 to 18. Her scores on the Activities and School scales were both in the normal range, and her score on the Social scale was in the borderline clinical range (2nd to 5th percentiles).

On the CBCL problem scales, the child's Total Problems score was in the borderline clinical range (83rd to 90th percentiles) for girls aged 12 to 18. Her Internalizing score was in the normal range and her Externalizing score was in the clinical range above the 90th percentile. Her scores on the Withdrawn, Somatic Complaints, Anxious/Depressed, Social Problems, Attention Problems, Delinquent Behavior, and Aggressive Behavior syndromes were in the normal range. Her score on the Thought Problems syndrome was in the borderline clinical range (95th to 98th percentiles). These results indicate that the child's biological mother reported more problems than are typically reported by parents of girls aged 12 to 18, particularly thought problems.